



BY ROBERT ROSSITER

Suite inspiration 5

Over the last few months you may have been following my series of articles describing how I constructed an oak dining table, chairs and display cabinet for a client's dining area, plus a matching occasional table. This is the final piece in the collection. I've called it a companion unit, due more to its intended purpose than its appearance



COMPANION UNIT CUTTING LIST

All dimensions are in millimetres

Part	Qty	L	W	T
CABINET				
Top	1	400	350	20
Side	2	390	320	20
Base	1	350	320	20
Shelf	2	350	314	18
Back (plywood)	1	380	350	8
Plinth front/back	2	400	40	15
Plinth side	2	350	40	15
Plinth bearer	2	330	20	20
DRAWERS				
Top drawer front/back	2	330	85	20
Top drawer side	2	310	85	20
Centre drawer front/back	2	330	100	20
Centre drawer side	2	310	100	20
Bottom drawer front/back	2	330	115	20
Bottom drawer side	2	310	115	20
Drawer bottoms (plywood)	3	300	285	8

You will also need about 4m of 2mm square ebony string(ing) for the inlay.

The final commission from my clients was to construct a small companion unit to sit between two armchairs in their lounge. It was to act as a low table, allowing the storage of books and papers in the drawers below, and had to be easy to move around.

To meet their requirements I designed a small chest of drawers, mounted on castors for manoeuvrability. I also decided that the construction would allow the clients to remove a drawer or two if they wished, so as to reveal open shelves. The basic dimensions of the piece would be 400mm wide, 350mm deep and 400mm high.

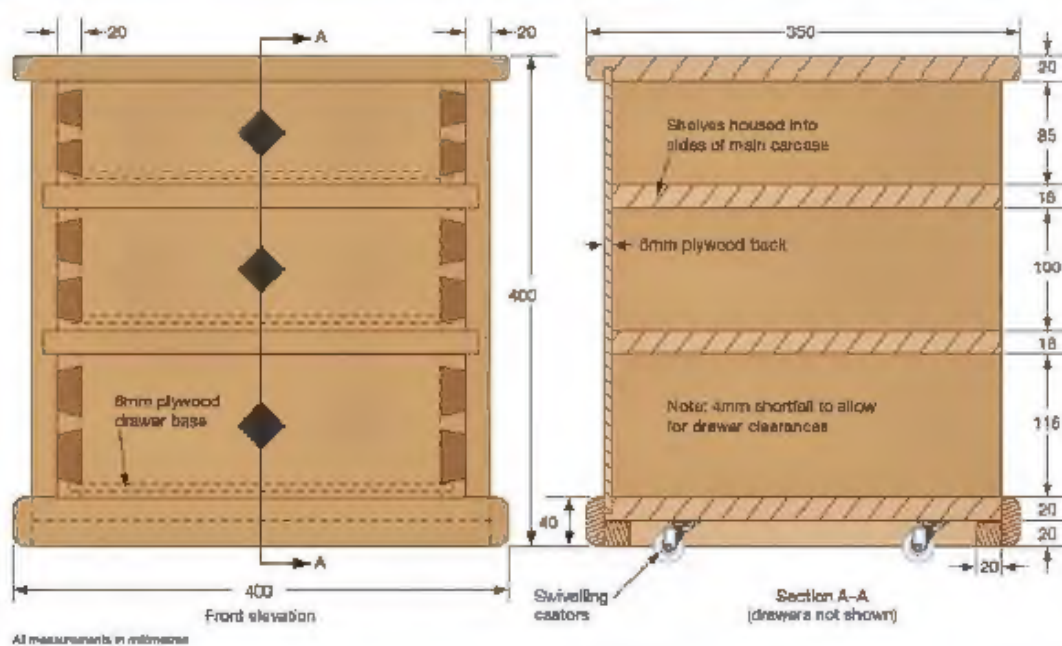
Making up panels

I started by selecting some boards of European oak from the same stock I'd used for the other furniture, and passed these through my thicknesser. I then cut appropriate sections to biscuit-joint together and form the panels which would in turn become the top, bottom, sides and shelves of the unit.

Once the biscuit slots were cut, **photo 1**, I glued and cramped up the boards, then left them overnight to ensure that the glue had fully cured before doing any further work on them.

Black marks

I had five panels to cramp up, and soon ran out of the tubular cramps I prefer to use when cramping up boards like this, so I had

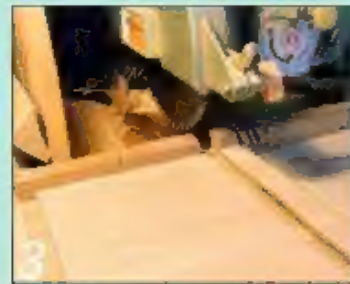




1 Make up the panels by joining boards together with glue and biscuits



2 Pass the boards through the panel sander to flatten their surfaces



3 Create the housings with a series of passes on the radial arm saw



4 Use the router to cut narrower housings in the underside of the top to take the sides



5 Fix a batten to the router fence to square it and help it to run true



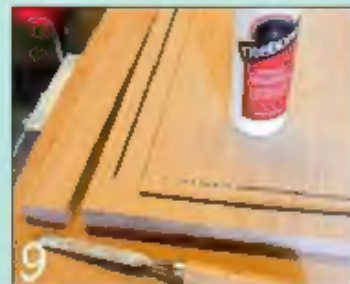
6 The router leaves a circular cut at each end of the housing; trim it with a corner chisel



7 Use a 2mm straight cutter in the router to cut grooves along the grain...



...and the housings across it to a depth of 2mm to accept the ebony inlay



9 Cut the stringing to length and glue it into the grooves and housings

to call up a couple with standard steel bar end cramps. One thing to avoid when using steel cramps is to ensure that the excess glue doesn't come into contact with the steel: if it does, you'll be left with unsightly black marks on your oak which can be very difficult to remove. A simple way of preventing this is to place a fold of paper on the glue line between the board and the cramp.

Watch out for squeeze-out

Beware too the excess glue which is squeezed out as the boards are cramped up. Many people recommend removing this immediately with a damp cloth, but I dislike this method as wiping can actually force glue into the open pores of the wood. Unfortunately it doesn't show until you try to polish the piece.

I prefer to leave the excess glue to set hard; then I remove it with a sharp chisel or scraper before sanding the panel flat. I did this here, passing the boards through my panel sander, **photo 2**, to flatten the surfaces and finish them all to a uniform thickness. I then cut them to width, planed the edges on the surfacer and cut them to length as per the cutting list.

Shelf housings

Instead of using the more traditional construction using drawer runners, I opted for solid shelves to give the customer a choice of how to use the unit – with closed drawers or open shelves.

The shelves and the base are let into housings cut across the full width of the sides. I created the housings by making a succession of adjacent cuts using my radial arm saw, **photo 3**, until the desired width was achieved.

Next, I cut a simple rebate on the inner back edge of each side and the base using the router to accept the edges of the plywood back panel.

I then cut a pair of narrower housings on the underside of the top with the router to accept the upper edges of the sides, **photo 4**. I fixed a timber batten to the router fence to make sure it ran true as I cut them, **photo 5**. I planned to rout the matching tongues on the top edges of the sides later.

The main problem when cutting housings with a router is that the cutter leaves a circular cut at either end. This was simply squared up using a sharp corner chisel, **photo 6**.

Adding the inlay

Having finished the housings, I changed the cutter in my router to a 2mm straight cutter

and proceeded to cut a groove along the grain, **photo 7**, and a housing across it, **photo 8**, both approximately 30mm in from the edge, to accept the black ebony inlay stringing that has been a feature of this whole collection of pieces.

The inlay was then glued in, **photo 9**, and allowed to dry. Next the surface was sanded to get the inlay flush prior to rounding the corners of the top on the disc sander, **photo 10**. Knowing what the finished height of the table would be, I thought leaving sharp corners would only lead to bruised legs at some point in the future!

I also applied a similar inlay around the two side panels before preparing to glue up the carcass.

Assembly time

The assembled carcass consisted at this stage of the two sides, the base and the two shelves, **photo 11**. Once the glue had cured, I removed the cramps and used a bearing-guided rebate cutter to form a tongue along the top edge of the sides, **photo 12**. This would later slot neatly into the housings already formed on the underside of the top.

Before gluing the top onto the carcass, I screwed a pair of 20mm square battens across the underside of the base, flush with its front and back edges. I then screwed the mitred plinth sections into place all around the base of the carcass, with the corners mitred and glued. With the parts held in place with several spring clamps, **photo 13**, I added a few screws for good measure. Finally, with the plinth fitted I was able to glue and clamp the top in position, **photo 14**.

With the carcass all but complete (the back won't be fitted until the unit has been polished), I rounded over all the edges which hadn't already been done, **photo 15**. This effectively softened the appearance of what could have appeared as a very square unit. It was now time to turn my attention to making the drawers.

Little boxes

Knowing that a drawer or two might be removed to leave just open shelves, I decided to make the drawers as actual boxes. Traditionally the drawer back is always made lower than the sides, but keeping the sides, backs and fronts the same height meant they could all be jointed in the same way.

Instead of using standard lap dovetails for the drawers, I opted to use through dovetails which would leave the end grain of the base of the tails visible on the drawer

DRAWER OPTIONS

Designing the drawers as removable boxes and fitting fixed shelves instead of using drawer runners – means that the unit can be used in a variety of different ways. You can dispense with the drawers entirely if you prefer an open shelf unit.





10 Sand the inlay flush, then round off the corners of the top panel on the sander



11 Glue, assemble and clamp up the sides, the shelves and the base



12 Use a rebate cutter to form tongues on the top edges of the sides



13 Fit the two plinth bearers and screw the plinth components into place



15 Round over all the exposed edges of the carcass with the router



14 Complete the carcass by gluing and cramping the top in position



16 I used my Woodrat to cut the through dovetails on the drawer sides



17 The resulting sockets were crisp and clean, needing only minimal finishing

fronts and give a different appearance to the front of the drawers.

I must admit that this is where I find my Woodrat coming into its own, **photo 16**. The sockets it cuts are always clean, **photo 17**, leaving very little chisel work to be done... unless you haven't set it up properly in the first instance, of course!

I then cut a 6mm wide groove on the inside of each drawer side, front and back to take the plywood base before gluing and cramping up the three boxes with the bases in place, **photo 18**.

Once the glue had set, I sanded each drawer with my random orbit sander and rounded over the edges before sliding them into position in the carcass.

Finishing touches

It was now time to remove the drawers again and spray all the component parts with the same pre-catalysed lacquer I'd used on the other pieces in the suite. When it had dried, I de-nibbed all the surfaces with fine abrasive paper before applying some Mylands light brown wax and buffing it up to a natural sheen.

Finally I fitted the plywood back, along with the knobs (see panel, right), and added a set of four surface-mounted swivel castors to the bottom, inside the plinth - giving the unit the look most of my clients were looking for.

With this piece completing the suite, their room was now fully furnished and my job was done. I hope you've enjoyed reading about how I did it.

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Glue and cramp up the parts for each drawer and check that it's square



MATCHING KNOBS

When I made the display cabinet (featured in our February issue), I made some small square ebony knobs for the doors. I decided to make some similar knobs for the companion unit drawers, but knowing that these were likely to be filled with magazines and the like I thought they ought to be a little stronger and heavier in appearance.

I started by machining a piece of ebony to form a 20mm square batten. I wanted to give each knob a shallow pyramid profile, so I stuck a piece of scrap timber onto the table of my disc sander using double-sided tape. I created the pyramid profile by presenting each end of the batten to the sanding disc, **photo A**, turning it through 90° each time the cut reached the middle of the batten. **Photo B** shows the finished shape. Then I cut a groove on each side of the batten using my radial arm saw to form the neck of the handles, **photo C**, and cut each batten in half.

I made a few extra knobs, **photo D**, to ensure I had three that matched. Then I carefully sanded off the saw marks and treated them to a coat of gloss lacquer before putting them to one side to allow the coating to cure fully, **photo E**.



A Present the end of the batten to the disc at an angle



B Turn it repeatedly through 90° to create the pyramid shape



C Cut notches in the batten to form the neck of the handle



D

Cut the knobs from the battens and check that they match



E Mount each knob on a metal base and apply a coat of gloss lacquer